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**BUREAU OF WASTE PREVENTION
DIVISION OF CONSUMER AND TRANSPORTATION PROGRAMS**

**Summary of Comments and Response to Comments
on the Proposed Regulation and Proposed Amendments to the
State Implementation Plan for Ozone; and**

**Findings under the Massachusetts
Low Emission Vehicle Statute, M.G.L. c. 111, Section 142 K.**

310 CMR 7.40:

**THE MASSACHUSETTS
LOW EMISSION VEHICLE PROGRAM**

Regulatory Authority: M.G.L. c. 111, Sections 142A through 142M

December 2002

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I. SUMMARY OF AND RESPONSE TO COMMENTS ON 310 CMR 7.40: THE LOW EMISSION VEHICLE PROGRAM REGULATION

Comments were received from the following organizations:

- 1) Boston Public Health Commission
- 2) Daimler Chrysler Corporation, General Motors Corporation and Isuzu Motors Limited
- 3) Daimler Chrysler Corporation, General Motors Corporation, Isuzu Motors Limited, Mitsubishi Motor Sales of America, Inc., and Volkswagen of America, Inc.
- 4) Ford Motor Company
- 5) Harvard School of Public Health
- 6) Honda Motor Company, Inc.
- 7) Massachusetts Public Interest Research Group (MASSPIRG)
- 8) Nissan North America, Inc.
- 9) Representative Anne Paulsen
- 10) Tener, Beth
- 11) U.S. Environmental Protection Agency (EPA), Region 1
- 12) ZIPCAR

The Massachusetts Department of Environmental Protection (the “Department”) filed amendments to 310 CMR 7.40, the Low Emission Vehicle (LEV) Program regulations, with the Massachusetts Secretary of State as an emergency regulation on December 31, 2001. These amendments were effective upon filing. In order to make the regulations permanent, the Department solicited public comment on the regulation to comply with the public review process requirements of M.G.L. Chapter 30A. The amendments to 310 CMR 7.40 adopt the recent revisions to the California Zero Emission Vehicle (ZEV) mandate beginning in Model year 2006. These amendments also align the Massachusetts LEV program with recent revisions to the California LEV program regulations (Title 13 of the California Code of Regulations). Massachusetts has also agreed to provide added flexibility to automobile manufacturers through the northeast states’ ZEV Alternative Compliance Plan (ACP). Relevant comments have been summarized and organized into the following groupings:

- A. General Comments in Support
- B. Air Quality and Public Health Issues
- C. Statutory and Regulatory Authority
- D. Alternative Compliance Plan
- E. Other Comments

A number or sequence of numbers (as noted above) indicating which organization made the comment follows the comments in this document.

A. General Comments in Support

1. Comment: Numerous organizations support the amendments to 310 CMR 7.40, the LEV program, which will provide for cleaner air in Massachusetts. (1)(4)(5)(6)(7)(8)(9)(10)(11)(12)

Response: The Department agrees with this comment.

2. Comment: Numerous organizations support Massachusetts in its efforts to keep its regulations consistent with Section 177 of the CAA and the applicable California rules and requirements, as required by federal law. (7)(11)

Response: The Department agrees with this comment.

3. Comment: Automobile manufacturers have known for years that they would be expected to market substantial numbers of low and zero-emission vehicles beginning this decade. The LEV program, as amended, provides flexibility (via the ACP) to make it easy for manufacturers to meet program deadlines. (7)

Response: The Department agrees with this comment.

B. Air Quality and Public Health Issues

4. Comment: Numerous organizations support the proposed regulation for providing reductions in air pollutants from vehicular emissions including such serious air pollution problems as ground-level ozone, fine particulate matter, nitrogen oxides and carbon dioxide. (1)(5)(7)(8)(9)(11)

Response: The Department agrees with this comment.

5. Comment: Massachusetts needs to take a lead on the issue of improving air quality and making more ZEV vehicles available for purchase will undoubtedly achieve this goal. Most car manufacturers already possess the technology to produce these vehicles. They need to be shown that states like Massachusetts and California are demanding that more ZEV vehicles be available, as the outcome can be beneficial to both parties. With waiting lists in Massachusetts of up to six months for some of the current clean vehicles, there is a demonstrated need for a greater supply and variety of clean vehicles. (1)(5)(7)(10)(12)

Response: The Department agrees with this comment.

6. Comment: The people of Massachusetts want to continue to improve air quality and we need the involvement of automobile manufacturers to make it happen. Since 1990 when Massachusetts adopted the California LEV program, there has been an improvement in our air quality due to reductions in auto emissions. The new regulations will further improve the air that we breathe because new automobiles, and eventually all automobiles, will reduce their emissions into the air. Furthermore, as an added benefit, less gas will be consumed. (7)(9)

Response: The Department agrees with this comment.

7. Comment: The incidence of asthma and other respiratory illnesses have seen a significant increase in recent years and much of this can be attributed to the emissions from vehicular traffic. The numerous toxic gases and particulates that make up a large fraction of these emissions have been studied extensively and much of the data point toward an unhealthy outcome. The cost to automobile manufacturers and to consumers is small when compared to the societal costs of poor air quality. (1)(5)(7)(9)

Response: The Department believes that reducing vehicle emissions will reduce air pollutants and contribute to improving public health.

C. Statutory and Regulatory Authority

8. Comment: The Massachusetts Department of Environmental Protection (DEP) should reconsider its decision to adopt the amendment on an emergency basis, without customary notice-and-comment procedures. (2)(3)

Response: Emergency regulations do become effective upon filing, however, within 90-days the agency must complete the public review process required by Massachusetts General Law chapter 30A. Emergency adoption of a regulation is not intended as means to avoid public review. To that end, on February 12, 2002 DEP issued a Notice of Public Hearing to the public and to the automobile manufacturers regarding the public hearing on the ZEV amendments. The public hearing was held on March 13, 2002. The purpose of the public hearing was to solicit comments on the emergency regulation. Written comments were accepted until 5:00 pm on March 13, 2002.

9. Comment: DEP should consider whether to repeal its amendment and adopt federal emissions standards in light of California's Office of Administrative Law's (OAL) disapproval of the underlying California regulation. (2)(3)

Response: The California Air Resources Board (CARB) resubmitted a final set of amendments to OAL on April 12, 2002. This final set of amendments was resubmitted after correcting a procedural deficiency and results in no changes to the initial set of amendments. Under Government Code section 11349.4(b), OAL had 30-days (until May 12, 2002) to review a resubmitted regulatory action only for those reasons expressly identified in its earlier disapproval opinion on January 23, 2002 and an additional 15 days to act on the rule. OAL approved the California regulation on May 24, 2002.

Because the CARB regulation was not finalized until 2002, DEP's permanent regulation has been amended to require the automobile manufacturers to comply with the ZEV mandate in model year 2006 rather than in model year 2005 as included in the emergency regulation. This will provide the automobile manufacturers with the necessary two model years of lead-time required by Section 177 of the Clean Air Act (CAA).

10. Comment: DEP has not provided the required two years' lead-time for its emission standards. The ACP provisions of the amendments are contrary to the lead-time provision in that they impose mandatory conditions for model years before model year 2005. (2)(3)

Response: The emergency regulation was effective on December 31, 2001 upon filing with the Secretary of State. This would have provided the required lead-time under Section 177 of the

CAA if California had finalized its regulation by the end of calendar year 2001. Because of an administrative error in California's rulemaking process, the California rule was not adopted as final until May 24, 2002. Accordingly, Massachusetts is no longer able to provide the required two-year lead-time to make the rule effective in model year 2005. Therefore, the permanent regulation has been revised to adopt the California ZEV mandate in model year 2006.

11. Comment: DEP should reconsider whether its amendment is preempted by the fuel-economy requirements of the Energy Policy and Conservation Act (the CAFÉ statute). DEP's amendment imposes fuel-economy requirements by requiring advanced-technology partial zero-emission vehicles (AT PZEVs) to achieve minimum fuel-economy levels. Although the amendment does not explicitly require manufacturers to sell AT PZEVs, the "alternative" is to sell ZEVs at a much greater cost. (2)(3)

Response: DEP's ZEV amendments do not impose any fuel economy requirements on the auto manufacturers and are not designed to reduce gasoline consumption in the United States. The fundamental goal of the Low Emission Vehicle program is the reduction of criteria pollutants.

12. Comment: DEP should reconsider whether its amendment is preempted by requirements of the CAA stating that Massachusetts' emissions regulation may depart from federal standards only if they are "identical" to California standards. DEP, unlike California, included a severability clause and an ACP in the regulation. (2)(3)

Response: The ACP is not a standard and is presented as a voluntary program that the automobile manufacturers may, but are not required to, opt into.

13. Comment: In adopting the California standards, DEP must not "take any action of any kind to create, or have the effect of creating, a motor vehicle engine different than a motor vehicle or engine certified in California under California standards ('a third vehicle'). Massachusetts' cold winters would require modifications to ZEVs' drive train components. As a result, manufacturers would have to manufacture three types of cars – federal cars, California cars, and Massachusetts cars that are California cars modified for the cold weather. DEP should consider whether this is precisely the "third vehicle" that is precluded by CAA Section 177. (3)

Response: The Massachusetts ZEV rules do not require the auto manufactures to produce a third vehicle. This comment is similar to the "cold climate" argument previously made by the auto manufacturers in challenging New York's ZEV rule. That argument was rejected by the U.S. Court of Appeals for the Second Circuit in *Motor Vehicle Manufacturer's Assoc. v. New York State Department of Environmental Conservation*, 17 F.3d 521, 537-8 (2nd Cir.1994).

14. Comment: DEP should consider whether the amendment will "prohibit or limit, directly or indirectly, the manufacture or sale of a new motor vehicle or motor vehicle engine that is certified in California as meeting California standards." This "indirect sales limitation" of the CAA will require manufacturers to sell ZEVs and limit the manufacturers ability to sell other cars. (2)(3)

Response: The Massachusetts ZEV amendments do not limit, directly or indirectly, the sale in Massachusetts of any motor vehicle or motor vehicle engine certified for sale in California. The Department believes the issue of the ZEV mandate creating a so-called "indirect sales limitation" was decided in *Motor Vehicle Manufacturer's Assoc. v. New York State Department of Environmental*

Conservation, 17 F.3d 521, 536-7 (2nd Cir.1994). (The Court rejected a similar indirect sales limitation argument by the auto manufacturers in challenging New York's adoption of the ZEV rule).

15. Comment: To prove that the California standards and their compliance programs adopted by DEP would “achieve, in the aggregate, greater motor vehicle pollution reductions than the federal standards and compliance program” (M.G.L. c.111, Section 142K), DEP should publish an analysis of the impact of the ZEV mandate on the motor vehicle emissions fleet in Massachusetts as a whole, and then permit public comment on the analysis at a public hearing. (2)

Response: Under M.G.L. c. 111, §142K, the DEP looks at the California LEV program, including the ZEV piece, as a whole. When DEP adopted LEV II in 1999, a technical analysis of the program was completed in accordance with M.G.L. c. 111, §142K. A public hearing was held by DEP on LEV II, including the technical analysis, in 1999. Because the modifications to the ZEV mandate were designed by CARB to achieve the same level of emissions benefit as the ZEV mandate included in LEV II, the 1999 technical analysis is still valid.

16. Comment: DEP's regulations are not identical to California's regulations because DEP requires AT PZEV credits of one percent in model year 2005, two percent in model year 2006, and two percent in model year 2007 in 310 CMR 7.40(14)(c)1, Table. The California regulations do not specify a minimum percentage requirement for AT PZEVs. The mandatory percentages in the proposed regulations therefore violate the CAA. (2)

Response: The table referred to in the comment is part of the Alternative Compliance Plan in 310 CMR 7.40(14), which as noted in the response to Comment 11, is voluntary.

17. Comment: DEP should consider following federal standards until EPA has granted a preemption waiver for the California ZEV standards. EPA granted a waiver of federal preemption for an earlier version of the ZEV mandate in 1993, but has never made a waiver determination with respect to the 1998 (or 2001) California ZEV standards. As a result, it appears that those standards are not eligible for adoption under Section 177. (2)(3)

Response: The original 1991 ZEV requirements are covered by the original waiver granted by EPA for the LEV regulations, and on January 25, 2001, U.S. EPA published its determination that the 1998 ZEV amendments were within the scope of the previous waiver (66 Fed. Reg. 7751). California's waiver request for the LEV II amendments is pending with U.S. EPA. Since the overall impacts of the current amendments are to make it easier for manufacturers to comply, compared to the preexisting requirements, we believe the amendments should be found to be within the scope of earlier waivers. If U.S. EPA determines that it is appropriate to consider the amendments within the context of a new waiver request, we believe they would qualify under 42 U.S.C. § 7543(b), on many of the same basic grounds that justify the amendments under California state law.

18. Comment: DEP should reconsider adopting the California standards and their compliance programs because they will not “achieve, in the aggregate, greater motor vehicle pollution reductions than the federal standards and compliance program.” In this instance the California program would actually increase annual fleet-wide emissions. (2)(3)

Response: The federal CAA allows states to adopt California motor vehicle emission standards, which are more stringent than the federal motor vehicle emission standards. The

amendments were adopted in accordance with Massachusetts General Laws (M.G.L.) c.111 Sections 142B and 142K. This law requires the Department to adopt California emission standards unless the standards will not achieve greater emission reductions, in the aggregate, than federal emission standards.

In addition, the LEV program is part of Massachusetts' effort to attain and maintain the National Ambient Air Quality Standards (NAAQS) for ozone. The implementation of California ZEV mandate and the ACP in Massachusetts will result in improved air quality and greater reductions in emissions of non-methane hydrocarbons (NMHCs), nitrogen oxides (NOx), particulate matter (PM), carbon monoxide (CO), and air toxics.

CARB found that the amended ZEV regulations are the most effective path in maintaining progress towards commercialization of ZEVs while recognizing the near term constraints due to cost, lead time, and technical challenges. They found that the amended ZEV regulations remain an essential component of long-term air quality strategy because of the promise and ultimate necessity of zero-emissions technologies.

D. Alternative Compliance Plan

19. Comment: Numerous organizations support the ACP and expect this plan to provide an improved transition to future advanced technology vehicles. (4)(6)(7)(8)

Response: The Department agrees with this comment.

20. Comment: Ford Motor Company supports the ACP's flexibility and intends to opt-into the ACP. The ACP ensures that all vehicles available in California will be available in Massachusetts, but provides three years to learn about what works for ZEVs in California before implementing the best of those strategies in Massachusetts. It also provides advanced technology vehicles in volume sooner. Finally, the ACP allows time to address unique northeast challenges such as EV driving range in cold temperatures. (4)

Response: The Department agrees with this comment.

21. Comment: When considering the details of the ACP, Nissan has consistently supported the expanded role of the gasoline-powered partial zero emission vehicle (PZEV) for improving air quality. The further reduction in ozone precursors obtained from increased penetration levels of gasoline PZEVs is significant. Likewise, because gasoline PZEVs are both more cost effective and market compatible than either EVs or AT-PZEVs, their increased use should be encouraged. The ACP provides this encouragement. (8)

Response: The Department agrees with the comment.

22. Comment: The regulation should be amended to include the PZEV over compliance option that is included in the text of the ACP. (6)

Response: The Department agrees with this comment. The final regulation has been modified to reflect this comment. (See Subsection (14)(d)(2).)

23. Comment: The regulation should clarify that during the voluntary early introductions years of the ACP, the provisions of section (14)(a)(2) [“Each manufacturer shall market and shall make available for purchase in Massachusetts all models of vehicles delivered for sale, sold or marketed in California”] do not apply. (6)

Response: The Department agrees with this comment. The final regulation has been modified to reflect this comment. (See Subsection (14)(a)(2).)

24. Comment: The regulation should clarify if manufacturers are required to file projected compliance reports in the voluntary introduction years of the ACP (MY 2002-2003). (6)

Response: The Department agrees with this comment. The final regulation has been modified to reflect this comment. (See Subsection (14)(f)(1).) Each manufacturer shall submit a projected compliance report by the commencement of the model year including model years 2002 and 2003 if a manufacturer participates in the voluntary introduction years in model years 2002 and 2003.

25. Comment: The regulation should clarify whether compliance reports are due with annual sales reports for the voluntary introduction years. (6)

Response: The Department agrees with this comment. The final regulation has been modified to reflect this comment. (See Subsection (14)(f)(2).) Compliance reports shall be submitted with annual sales reports by March 31 following the completed model year including model years 2002 and 2003 if a manufacturer participates in the voluntary introduction years in model years 2002 and 2003.

E. Other Comments

26. Comment: Numerous organizations commented that it is not technologically feasible to implement these amendments. (2)(3)(4)(6)

Response: When DEP adopted LEV II in 1999, a technical analysis of the program was completed in accordance with M.G.L. c. 111, §142K. It was found that the ZEV mandate is technologically feasible.

27. Comment: California has been living with early ZEV demonstration and commercialization for some years. There is growing recharging infrastructure in place, incentives for infrastructure, infrastructure standards, and electricians trained on installation and repair. Vehicle purchase incentives are available, as well as HOV lane access and free public charging. California is working on awareness through a coordinated public outreach effort. They operate a government EV loaner program, and support public events. All of these activities need to happen here in Massachusetts. (4)

Response: The Department agrees with this comment.

28. Comment: Battery electric vehicles also face unique climate issues in the northeast that significantly penalize driving range during cold months. Cold weather increases drag on the vehicle, increases auxiliary loads and compromises the battery capacity. Use of electric resistance heaters, for interior comfort heating, can reduce winter driving range by 50%. (4)

Response: This comment is similar to the “cold climate” argument previously made by the auto manufacturers in challenging New York’s ZEV rule. That argument was rejected by the U.S. Court of Appeals for the Second Circuit in *Motor Vehicle Manufacturer’s Assoc. v. New York State Department of Environmental Conservation*, 17 F.3d 521, 537-8 (2nd Cir.1994).

II. FINDINGS UNDER THE MASSACHUSETTS LOW EMISSION VEHICLE STATUTE

Statutory Requirement, M.G.L. c. 111, Section 142 K (a)

The Massachusetts Low Emission Vehicle statute provides in relevant part:

“...the Department of Environmental Protection, hereinafter referred to as the department, shall adopt motor vehicle emissions standards based on the California’s duly promulgated motor vehicle emissions standards of the state of California unless, after a public hearing, the department establishes, based on substantial evidence, that said emissions standards and a compliance program similar to the state of California’s will not achieve, in the aggregate, greater motor vehicle pollution reductions than the federal standards and compliance program for any such model year. The department shall publish issue detailed written findings before and after holding a public hearing pursuant to this paragraph and said hearing shall be subject to the provisions for public hearings contained in chapter thirty A. ...”

Technical Analysis and Findings

In accordance with M.G.L. c. 111, Section 142K, the Department assessed the air quality impacts of adopting the California LEV II standards, including the modifications to the ZEV mandate, as compared to the impacts of having federal standards in-place in Massachusetts. This assessment was part of the Department’s rulemaking process in 1999. The Department engaged the services of Cambridge Systematics, Inc. through a contract with the Northeast States for Coordinated Air Use Management (NESCAUM) to perform a technical analysis prior to the adoption of the standards. The results of this analysis showed that the adoption of the LEV II standards in the aggregate would result in the lowest level of on-road motor vehicle emissions in Massachusetts for NMHC, NO_x, CO, and air toxics. Because the modifications to the ZEV mandate were designed by CARB to achieve the same level of emissions benefit as the ZEV mandate included in LEV II, the 1999 technical analysis is still valid for the adoption of the ZEV mandate finalized by CARB on May 24, 2002. The technical analysis is available from the Department.

Adoption of the recent California LEV amendments, which require that manufacturers certify vehicles to the most stringent standards, will result in additional emission reductions. Incorporation of the amendment in the Massachusetts LEV program will ensure the cleanest vehicles in the Massachusetts fleet.

Therefore, based upon the Department’s technical analysis as set forth in the Department’s Background Document and Technical Support to the proposed amendments, the Department finds that the California’s Low Emission Vehicle program provides Massachusetts with greater motor vehicle pollution benefits than the current federal motor vehicle emission control.